

BCA - 235 FUNDAMENTALS OF DATABASE SYSTEM

Maximum Marks: 100

External:

80

Minimum Pass Marks: 35

Internal:

20

Time: 3 hours

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. A candidate will be required to answer five questions in all, selecting one question from each unit in addition to compulsory Question No. 1. All questions will carry equal marks.

UNIT - I

Basic Concepts - Data, Information, Records and files. Traditional file - based Systems-File Based Approach-Limitations of File Based Approach, Database Approach-Characteristics of Database Approach, Database Management System (DBMS), Components of DBMS Environment, DBMS Functions and Components, Advantages and Disadvantages of DBMS, Roles in the Database Environment - Data and Database Administrator, Database Designers, Applications Developers and Users.

UNIT - II

Database System Architecture - Three Levels of Architecture, External, Conceptual and Internal Levels, Schemas, Mappings and Instances, Data Independence - Logical and Physical Data Independence, Classification of Database Management System, Centralized and Client Server architecture to DBMS.

UNIT - III

Data Models: Records- based Data Models, Object-based Data Models, Physical Data Models and Conceptual Modeling, Entity-Relationship Model - Entity Types, Entity Sets, Attributes Relationship Types, Relationship Instances and ER Diagrams.

UNIT - IV

Relational Data Model:-Brief History, Terminology in Relational Data Structure, Relations, Properties of Relations, Keys, Domains, Integrity Constraints over Relations, Base Tables and Views, Basic Concepts of Hierarchical and Network Data Model.

TEXT BOOKS:

1. Elmasri & Navathe, "Fundamentals of Database Systems", 5th edition, Pearson Education.

REFERENCE BOOKS:

1. Thomas Connolly Carolyn Begg, "Database Systems", 3/e, Pearson Education
2. C. J. Date, "An Introduction to Database Systems", 8th edition, Addison Wesley N. Delhi.